



Introduction to Algebra Worksheet

Letters + Numbers = Algebra

Name: _____

Date: _____

Think
Solve
Grow



What is Algebra?

Algebra is a branch of mathematics that uses letters and numbers to represent unknown quantities or relationships.

Key Terms:

- **Variable** – a letter that represents a number (e.g. x , y , a , n).
- **Constant** – a fixed number (e.g. 5, 8, -3).
- **Coefficient** – the number multiplied by a variable (e.g. 3 in $3x$).

Example

$$3x + 5$$

Diagram illustrating the components of the algebraic expression $3x + 5$:

- Coefficient (3)**: The number 3 is labeled as the coefficient.
- Variable (x)**: The letter x is labeled as the variable.
- Constant (5)**: The number 5 is labeled as the constant.

Common Algebraic Expressions

Word Phrase	Algebraic Expression
A number increased by 6	$x + 6$
Four times a number	$4n$
A number decreased by 3	$p - 3$
The sum of a number and 10	$m + 10$
Twice a number	$2x$

Remember!

- ✓ Variables can be any letter (e.g. x , y , a , m , n).
- ✓ **Coefficients** are numbers in front of variables.
- ✓ **Constants** are numbers without a variable.
- ✓ **Like terms** have the same variable and power (e.g. $3x$ and $5x$ are like terms).
- ✓ You can **substitute** a value for a variable to evaluate an expression.

Part A: Understanding Algebra

Choose the correct answer.

- In the expression $7y + 4$, identify the variable.
☐ A. 7
☐ B. y
☐ C. 4
- In $5x + 8$, what is the coefficient?
☐ A. x
☐ B. 5
☐ C. 8
- In $2a + 9$, what is the constant?
☐ A. 2
☐ B. a
☐ C. 9

Part B: Write Algebraic Expressions

Write an algebraic expression for each statement.

- A number x increased by 6.

- Four times a number n .

- A number p decreased by 3.

- The sum of a number m and 10.

Part C: Evaluate Expressions

Substitute the given value and calculate.

- Calculate $x + 5$ when $x = 3$.

- Calculate $4a$ when $a = 6$.

- Calculate $2y + 3$ when $y = 4$.

- Calculate $3n - 2$ when $n = 5$.

Part D: Like Terms

12. Which pair contains like terms?

- ☐ A. $3x$ and $5x$
☐ B. $3x$ and $5y$
☐ C. $3x$ and 5

13. Simplify $2x + 4x$.

14. Simplify $3a + 2 + a$.

Answer Key

- B (y)
- B (5)
- C (9)
- $x + 6$
- $4n$
- $p - 3$
- $m + 10$
- 8
- 24
- 11
- 13
- A ($3x$ and $5x$)
- $6x$
- $4a + 2$

You can do it!

Algebra helps us solve problems, make connections and think more logically!



Remember:
Practice makes progress!



LIVEWORKSHEETS